

Customer No.: 31561
Docket No.: 10653-US-PA
Application No.: 10/707,736

In The Claims:

1. (currently amended) A back light module for providing a full-color surface light source, comprising:

a surface light source providing a first color light;

a light-shielding matrix formed on the surface of the surface light source, wherein the light-shielding matrix has a plurality of lattice points that exposes the underlying surface light source; and

a fluorescent layer formed inside some of the lattice points, comprising:

a plurality of first fluorescent-based material for converting the first color light into a second color light; and

a plurality of second fluorescent-based material for converting the first color light into a third color light,

wherein the first color light passing through uncoated lattice points.

2. (original) The back light module of claim 1, wherein the surface light source comprises a cold cathode fluorescent flat lamp.

3. (original) The back light module of claim 1, wherein the surface light source furthermore comprises:

a light-guiding plate having a light-receiving surface, a light-emitting surface and a light-diffusing surface;

a reflective holder positioned close to the light-receiving surface; and

a linear light source enclosed by the reflective holder.

4. (currently amended) The back light module of claim 3 ~~2~~, wherein the light-diffusing surface has a plurality of V-cuts.

Customer No.: 31561
Docket No.: 10653-US-PA
Application No.: 10/707,736

5. (currently amended) The back light module of claim 32, wherein the linear light source is selected from a group consisting of a cold cathode fluorescent lamp and a light-emitting diode array.

6. (currently amended) The back light module of claim 1, wherein the first, second, and third color lights comprise blue, green, and red color lights, respectively. ~~the fluorescent layer comprises:~~

~~a plurality of first fluorescent-based material for converting the light from the surface light source into a first color;~~

~~a plurality of second fluorescent-based material for converting the light from the surface light source into a second color; and~~

~~a plurality of third fluorescent-based material for converting the light from the surface light source into a third color.~~

7. (currently amended) The back light module of claim 16, wherein the uncoated lattice points are the lattice points without any fluorescent material. ~~the first fluorescent-based material, the second fluorescent-based material and the third fluorescent-based material are arranged to form a mosaic pattern, a triangular pattern, a stripe pattern or a four-pixel pattern.~~

8. (canceled)

9. (currently amended) The back light module of claim 78, wherein the lattice points with the first fluorescent-based material, the lattice points with the second fluorescent-based material and the lattice point points without any fluorescent material are arranged to form a mosaic pattern, a triangular pattern, a stripe pattern or a four-pixel pattern.

Customer No.: 31561
Docket No.: 10653-US-PA
Application No.: 10/707,736

10. (currently amended) A liquid crystal display, comprising:

a liquid crystal display panel;

a back light module positioned under the liquid crystal display panel,

comprising:

a surface light source providing a first color light;

a light-shielding matrix formed on the surface of the surface light source,
wherein the light-shielding matrix has a plurality of lattice points that exposes
the underlying surface of the surface light source; and

a fluorescent layer formed inside some of the lattice points, comprising:

a plurality of first fluorescent-based material for converting the first
color light into a second color light; and

a plurality of second fluorescent-based material for converting the
first color light into a third color light,

wherein the first color light passing through uncoated lattice points.

; and

a liquid crystal display panel positioned over the back light module.

11. (original) The liquid crystal display of claim 10, wherein the surface light source comprises a cold cathode fluorescent flat lamp.

12. (original) The liquid crystal display of claim 10, wherein the surface light source furthermore comprises:

a light-guiding plate having a light-receiving surface, a light-emitting surface and a light-diffusing surface;

a reflective holder positioned next to the light-receiving surface; and

Customer No.: 31561
Docket No.: 10653-US-PA
Application No.: 10/707,736

a linear light source enclosed within the reflective holder.

13. (original) The liquid crystal display of claim 12, wherein the light-diffusing surface has a plurality of V-cuts thereon.

14. (original) The liquid crystal display of claim 12, wherein the linear light source is selected from a group consisting of a cold cathode fluorescent lamp and a light-emitting diode array.

15. (currently amended) The liquid crystal display of claim 10, wherein the first, second, and third color lights comprise blue, green, and red color lights, respectively. ~~the fluorescent layer comprises:~~

~~a plurality of first fluorescent-based material for converting light from the surface light source into a first color;~~

~~a plurality of second fluorescent-based material for converting light from the surface light source into a second color; and~~

~~a plurality of third fluorescent-based material for converting light from the surface light source into a third color.~~

16. (currently amended) The liquid crystal display of claim ~~10~~15, wherein the uncoated lattice points are the lattice points without any fluorescent material. ~~the first fluorescent-based material, the second fluorescent-based material and the third fluorescent-based material are arranged to form a mosaic pattern, a triangular pattern, a stripe pattern or a four-pixel pattern.~~

17. (canceled)

18. (currently amended) The liquid crystal display of claim ~~16~~17, wherein the lattice points with the first fluorescent-based material, the lattice points with the

Customer No.: 31561
Docket No.: 10653-US-PA
Application No.: 10/707,736

second fluorescent-based material and the lattice point points without any fluorescent material are arranged to form a mosaic pattern, a triangular pattern, a stripe pattern or a four-pixel pattern.

19. (original) The liquid crystal display of claim 10, wherein the liquid crystal display panel furthermore comprises:

an array substrate;

an opposite substrate formed over the array substrate; and

a liquid crystal layer sandwiched between the array substrate and the opposite substrate.

20. (original) The liquid crystal display of claim 19, wherein the array substrate comprises a thin film transistor array substrate with an interior surface having an array of thin film transistors thereon and a plurality of pixel electrodes that correspond with the thin film transistors.

21. (original) The liquid crystal display of claim 20, wherein the display furthermore comprises a first alignment film positioned over the interior surface of the thin film transistor array substrate to cover the thin film transistors and the pixel electrodes.

22. (original) The liquid crystal display of claim 20, wherein the opposite substrate furthermore comprises a common electrode layer.

23. (original) The liquid crystal display of claim 22, wherein the display furthermore comprises a second alignment film positioned over the interior surface of the opposite substrate to cover the common electrode layer.

24. (original) The liquid crystal display of claim 10, wherein the liquid crystal

Customer No.: 31561
Docket No.: 10653-US-PA
Application No.: 10/707,736

display panel furthermore comprises:

- a bottom substrate;
- a top substrate positioned over the bottom substrate; and
- a liquid crystal layer sandwiched between the top substrate and the bottom substrate.

25. (original) The liquid crystal display of claim 24, wherein the bottom substrate has a plurality of first stripe electrodes and the top substrate has a plurality of second stripe electrodes such that the first stripe electrodes extend in a direction perpendicular to the second stripe electrodes.

26. (original) The liquid crystal display of claim 25, wherein the display furthermore comprises a first alignment film positioned over the interior surface of the bottom substrate to cover the first stripe electrodes.

27. (original) The liquid crystal display of claim 25, wherein the display furthermore comprises a second alignment film positioned over the interior surface of the top substrate to cover the second stripe electrodes.

28. (original) The liquid crystal display of claim 10, wherein the display furthermore comprises a first polarizing plate and a second polarizing plate such that the first polarizing plate and the second polarizing plate are attached to the surface of the liquid crystal display panel.

29. (original) The liquid crystal display of claim 10, wherein the display furthermore comprises a prism positioned between the liquid crystal display panel and the back light module.

30. (newly added) A back light module for providing a full-color surface

Customer No.: 31561
Docket No.: 10653-US-PA
Application No.: 10/707,736

light source, comprising:

a surface light source;

a light-shielding matrix formed on the surface of the surface light source, wherein the light-shielding matrix has a plurality of lattice points that exposes the underlying surface light source; and

a fluorescent layer formed inside the lattice points, comprising:

a plurality of first fluorescent-based material for converting the light from the surface light source into a first color light;

a plurality of second fluorescent-based material for converting the light from the surface light source into a second color light; and

a plurality of third fluorescent-based material for converting the light from the surface light source into a third color light.

31. (newly added) The back light module of claim 30, wherein the surface light source comprises a cold cathode fluorescent flat lamp.

32. (newly added) The back light module of claim 30, wherein the light from the surface light source includes an ultraviolet light.

33. (newly added) The back light module of claim 30, wherein the surface light source furthermore comprises:

a light-guiding plate having a light-receiving surface, a light-emitting surface and a light-diffusing surface;

a reflective holder positioned close to the light-receiving surface; and

a linear light source enclosed by the reflective holder.

34. (newly added) The back light module of claim 32, wherein the

Customer No.: 31561
Docket No.: 10653-US-PA
Application No.: 10/707,736

light-diffusing surface has a plurality of V-cuts.

35. (newly added) The back light module of claim 32, wherein the surface light source is selected from a group consisting of a cold cathode fluorescent lamp and a light-emitting diode array.

36. (newly added) The back light module of claim 30, wherein the first, second, and third colors comprise blue, green, and red colors, respectively.

37. (newly added) The back light module of claim 30, wherein the lattice points with the first fluorescent-based material, the second fluorescent-based material and the third fluorescent-based material are arranged to form a mosaic pattern, a triangular pattern, a stripe pattern or a four-pixel pattern.